

Appn. No. 10/821,082  
Response dated 10 April 2008  
Reply to Office Action of 10 January 2008  
Docket No. CA920030071US1

### **REMARKS/ARGUMENTS**

These remarks are made in response to the Office Action of 10 January 2008 (Office Action). As this response is timely filed before the expiration of the 3-month shortened statutory period, no fees are believed to be due. However, the Examiner is authorized to charge any deficiencies or credit any overpayments to Deposit Account No. 50-3610.

Applicant wishes to thank the Examiner for the telephone conference with undersigned counsel on April 8, 2008.

The Examiner has rejected Claims 1-3, 6, 8-9, and 12-15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pre-Grant Publication No. 2004/0098447 to Verbeke, *et al.* (hereinafter “Verbeke”) in view of European Patent No. 1246123 to Penev, *et al.* (hereinafter “Penev”). Further the Examiner has rejected Claims 4-5, 7, 10-11, and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Verbeke in view of Penev and in further view of U.S. Pre-Grant Publication No. 2002/0038301 to Aridor.

### **I. CLAIM AMENDMENTS**

The following claim amendments are made to clarify aspects of the invention. These amendments are fully supported by the Application and no new matter has been added. Specific amendments follow along with citations of the Application showing support for the associated amendment.

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Claims 1, 6, 12, and 13 have been amended to elaborate upon conditions causing an approximation in the grid computing environment. These conditions are specified in paragraph 032.

Claims 2, 8, and 14 have been amended for proper antecedent basis with claim 1, namely to ensure that the approximated sub-operation was indicated as being identical to the approximated portion of claim 1.

Claims 3, 9, and 15 have been amended to clarify that in absence of a result for the portion, all sub-operations for the task would need to be repeated. Support for this amendment can be found in paragraph 007. A further amendment made to claims 3, 12, and 13 have been added to define a basis for the approximations and to emphasize that these approximations are dependent upon data previously processed by the failed client or sent to the client, as opposed to being dependent upon data from other clients in the grid computing environment. Support for this amendment can be found in paragraph 033.

Claims 4, 6, 12, and 13 have been amended to change the claims to emphasize a manner in which the manager determines whether missing results are to be approximated. Support for this amendment can be found in paragraph 040.

Claim 7 has been amended to emphasize that failed clients are not conveyed portions of the task in subsequent repetitions of the task. Support for this amendment can be found in paragraph 040.

Claims 13-18 have been amended to indicate that the computer readable medium is a computer readable storage medium. The application specifies that software performing the functions described in claims 13-18 execute on a master server 24 (as noted in paragraph 022). One of ordinary skill in the art would know, and common practice in the industry at the time of the

invention was submitted teaches that this software (claimed in claims 13-18) was stored on a storage medium.

## **II. CLAIMED LIMITATIONS ARE NOT TAUGHT**

### **A. No teachings of approximating a result for a failed computation are taught**

Penev teaches a method for simplifying a 3D model, where approximation is used during model simplification (paragraph 0030). These approximations are performed to simplify calculations. Penev does not discuss or deal with a situation where computations situationally fail. Instead, Penev is utilizing a set of assumptions (0030) regarding a physical phenomena (illumination) and discloses a new model, which has more simplistic calculations than a traditional one and has believed advantages (paragraph 0034).

Verbeke teaches standard grid computing practices with respect to conveying computations to multiple client computers and having a manager compile results. Standard practice in the industry (grid computing) in absence of the Applicant's disclosure was to re-calculate a failed result. There are no teachings presented or implied in either Penev or Verbeke for changing this industry practice.

In contrast, Applicant claims (each independent claim 1, 6, 12, 13) that a grid computing manager (which submits tasks to clients and receives results) is to approximate results when (1) a message that the client has disconnected from a network is received, (2) the client indicates no result is forthcoming, or (3) a previously defined time delay for that client has passed.

### **B. No teachings regarding whether to re-execute a task or to approximate a result based upon a computed degree of error introduced through approximating (claims 4, 6, 12, 13)**

Penev does not appear to acknowledge that its taught approximation introduces a degree of error (paragraph 00034), but purports that its teachings conform to a non-standard model

(assuming the standard model has errors and Penev's model has errors, it is difficult to state that Penev's errors are more significant than those of a standard model, which paragraph 0034 claims is untrue).

Neither Penev nor Verbeke teach that an error due to approximation should be calculated and that different actions should be taken (re-compute the task or approximate the failed result) depending on whether a computed degree of error introduced by approximating exceeds an acceptable degree of error of a previously defined threshold.

### **III. No Motivation to Combine References**

Penev's teachings appear to be specific to vector approximations based upon linear algebra matrix multiplications. Penev applies a new model for illumination within which some approximations occur. Applicant acknowledges that approximations are performed by numerous different types of software in numerous contexts. Before the Applicant's disclosure, however, no known system taught that grid computing results for failed client returns should be situationally approximated.

There would be no reason for one of ordinary skill in the art to turn to Penev, which does not apply to grid computing and to apply teachings in a context not suggested by Penev, Verbeke, or any other known reference.

Proper sources for a motivation to combine references include: (1) the nature of the problem to be solved, (2) the teachings of the prior art, and (3) the knowledge of persons of ordinary skill in the art.

- (1) Neither Penev nor Verbeke acknowledge that a problem exists with failed delivery results from grid computing clients.
- (2) Prior art teachings do not appear to exist that failed grid computing results should be approximated.
- (3) Since innumerable teachings related to grid computing at the time of the invention, and since problems with failed results were often encountered and handled by repeating

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an operation or selectively ignoring that portion of the result, Applicant asserts that “ordinary skill” in the art is devoid of the Applicant’s novel teachings.

#### **IV. CONCLUSION**

Applicant has shown how the 35 USC § 103(a) rejections should be withdrawn for reasons elaborated upon above. Further, the claims have been amended, which are fully supported by the Application. Applicant believes that the current claims 1-18 are in a condition for allowance, which action is respectfully requested.

The Applicants request that the Examiner call the undersigned (**305-761-1972**) if clarification is needed on any matter within this Reply, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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/BRIAN K. BUCHHEIT/  
Brian K. Buchheit, Registration No. 52,667  
PATENTS ON DEMAND  
Customer No. 57736  
4581 Weston Road, Suite 345  
Weston, FL 33331  
Telephone: (305) 761-1972